

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (currently amended): A lithium ion secondary battery comprising a battery element obtained by alternately stacking a plurality of positive electrodes having layers of a positive electrode active material formed on both sides of positive current collectors and a plurality of negative electrodes having layers of a negative electrode active material formed on both sides of negative current collectors through separators having a thickness of from 10 to 30  $\mu\text{m}$  in such a way that the positive electrode active material layers face the negative electrode active material layers,

wherein the battery element is impregnated with liquid electrolyte and is held by a laminate case, and

the lithium ion secondary battery has a 10-second output value of 3000 W/kg or above at a depth of discharge capacity of 50% and 25°C and has the following configuration in which:

(1) the positive electrode active material has an average particle size of 3 to 10  $\mu\text{m}$ , the positive electrode excluding the positive current collector has a thickness of 30 to 110  $\mu\text{m}$ , and a thickness of the positive current collector is 20% or more of the thickness of the positive electrode excluding the positive current collector,

(2) the negative electrode active material ~~has~~ comprises an amorphous carbon having an average particle size of 5 to 10  $\mu\text{m}$ , the negative electrode excluding the negative current collector has a thickness of 30 to 100  $\mu\text{m}$ , and the thickness of the negative current

**AMENDMENT UNDER 37 C.F.R. § 1.111**  
**U.S. Appl. No. 10/565,823 (Q92714)**

collector is 10% or more of the thickness of the negative electrode excluding the negative current collector, and

(3) terminals of the positive electrode and the negative electrode are exposed from the laminate case with the terminals separated from each other and the positive electrode terminal and the negative electrode terminal respectively satisfy the formula:

$$B/A \geq 0.57$$

where A is a width of a region of the active material region perpendicular to the direction of current and B is a width of the electrode terminal perpendicular to the direction of current.

2. (original): The lithium ion secondary battery according to claim 1, characterized in that the positive electrode terminal and the negative electrode terminal are led out facing one another.

3. (previously presented): The lithium ion secondary battery according to claim 1, characterized in that parts of the positive electrode terminal and the negative electrode terminal exposed from the laminate case have surface areas wider than the surface areas of the positive electrode terminal and the negative electrode terminal in the laminate case.

4. (previously presented): A battery pack comprising a combination of a plurality of lithium ion secondary batteries according to claim 1 through the positive electrode terminal or negative electrode terminal.

**AMENDMENT UNDER 37 C.F.R. § 1.111**  
**U.S. Appln. No. 10/565,823 (Q92714)**

5. (original): The battery pack according to claim 4 comprising the positive electrode terminal and the negative electrode terminal that can be cooled with a cooling air.
6. (previously presented): The lithium ion secondary battery according to claim 2, characterized in that parts of the positive electrode terminal and the negative electrode terminal exposed from the laminate case have surface areas wider than the surface areas of the positive electrode terminal and the negative electrode terminal in the laminate case.
7. (previously presented): A battery pack comprising a combination of a plurality of lithium ion secondary batteries according to claim 2 through the positive electrode terminal or negative electrode terminal.
8. (previously presented): A battery pack comprising a combination of a plurality of lithium ion secondary batteries according to claim 3 through the positive electrode terminal or negative electrode terminal.
9. (previously presented): A battery pack comprising a combination of a plurality of lithium ion secondary batteries according to claim 6 through the positive electrode terminal or negative electrode terminal.
10. (previously presented): The battery pack according to claim 7 comprising the positive electrode terminal and the negative electrode terminal that can be cooled with a cooling air.

**AMENDMENT UNDER 37 C.F.R. § 1.111**  
**U.S. Appln. No. 10/565,823 (Q92714)**

11. (previously presented): The battery pack according to claim 8 comprising the positive electrode terminal and the negative electrode terminal that can be cooled with a cooling air.

12. (previously presented): The battery pack according to claim 9 comprising the positive electrode terminal and the negative electrode terminal that can be cooled with a cooling air.

13. (new): A lithium ion secondary battery comprising a battery element obtained by alternately stacking a plurality of positive electrodes having layers of a positive electrode active material formed on both sides of positive current collectors and a plurality of negative electrodes having layers of a negative electrode active material formed on both sides of negative current collectors through separators in such a way that the positive electrode active material layers face the negative electrode active material layers,

wherein the battery element is impregnated with liquid electrolyte and is held by a laminate case, and

the lithium ion secondary battery has a 10-second output value of 3000 W/kg or above at a depth of discharge capacity of 50% and 25°C and has the following configuration in which:

(1) the positive electrode active material has an average particle size of 3 to 10  $\mu\text{m}$ , and the positive electrode excluding the current collector has a thickness of 30 to 110  $\mu\text{m}$ ,

(2) the negative electrode active material is an amorphous carbon having an average particle size of 5 to 10  $\mu\text{m}$ , the negative electrode excluding the negative current collector has a

**AMENDMENT UNDER 37 C.F.R. § 1.111**  
**U.S. Appln. No. 10/565,823 (Q92714)**

thickness of 30 to 100  $\mu\text{m}$ , and the thickness of the negative current collector is 10% or more of the thickness of the negative electrode excluding the negative current collector, and

(3) terminals of the positive electrode and the negative electrode are exposed from the laminate case with the terminals separated from each other and the positive electrode terminal and the negative electrode terminal respectively satisfy the formula:

$$B/A \geq 0.57$$

where A is a width of a region of the active material region perpendicular to the direction of current and B is a width of the electrode terminal perpendicular to the direction of current.

14. (new): The lithium ion secondary battery according to claim 1, wherein the battery suppresses an increase of internal resistance.

15. (new): The lithium ion secondary battery according to claim 13, wherein the battery suppresses an increase of internal resistance.

16. (new): The lithium ion secondary battery according to claim 1, wherein the thickness of the negative electrode active material is substantially the same on both sides of the negative current collector.

17. (new): The lithium ion secondary battery according to claim 16, wherein the thickness of the positive electrode active material is substantially the same on both sides of the positive current collector.

**AMENDMENT UNDER 37 C.F.R. § 1.111**  
**U.S. Appl. No. 10/565,823 (Q92714)**

18. (new): The lithium ion secondary battery according to claim 13, wherein the thickness of the negative electrode active material is substantially the same on both sides of the negative current collector.

19. (new): The lithium ion secondary battery according to claim 18, wherein the thickness of the positive electrode active material is substantially the same on both sides of the positive current collector.